

TEMPERATURE SENSOR

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Publication date: 1975-07-16

Inventor:

Applicant: PPG INDUSTRIES INC

Classification:

- international: **B32B17/10; H05B3/84; H05B3/86; B32B17/06; H05B3/84; (IPC1-7): H01C1/02; G01K7/18; H05B1/00; H05B3/28**

- european: **B32B17/10C4; B32B17/10E10; B32B17/10E32; H05B3/84P; H05B3/86**

Application number: GB19720047564 19721016

Priority number(s): US19710199221 19711116; US19720285780 19720901

Also published as:



JP48058598 (A)

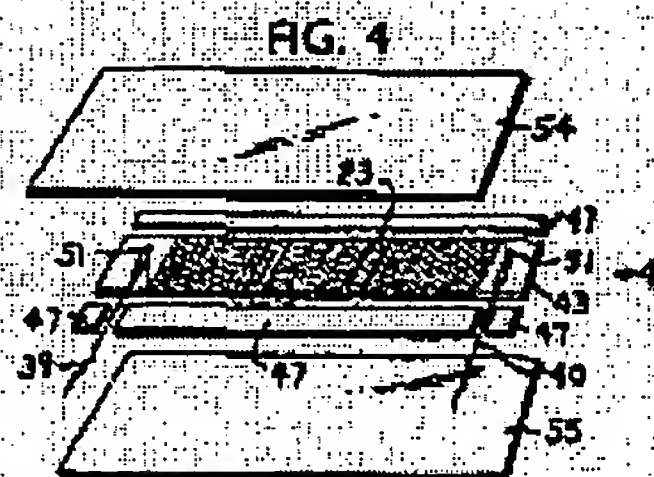
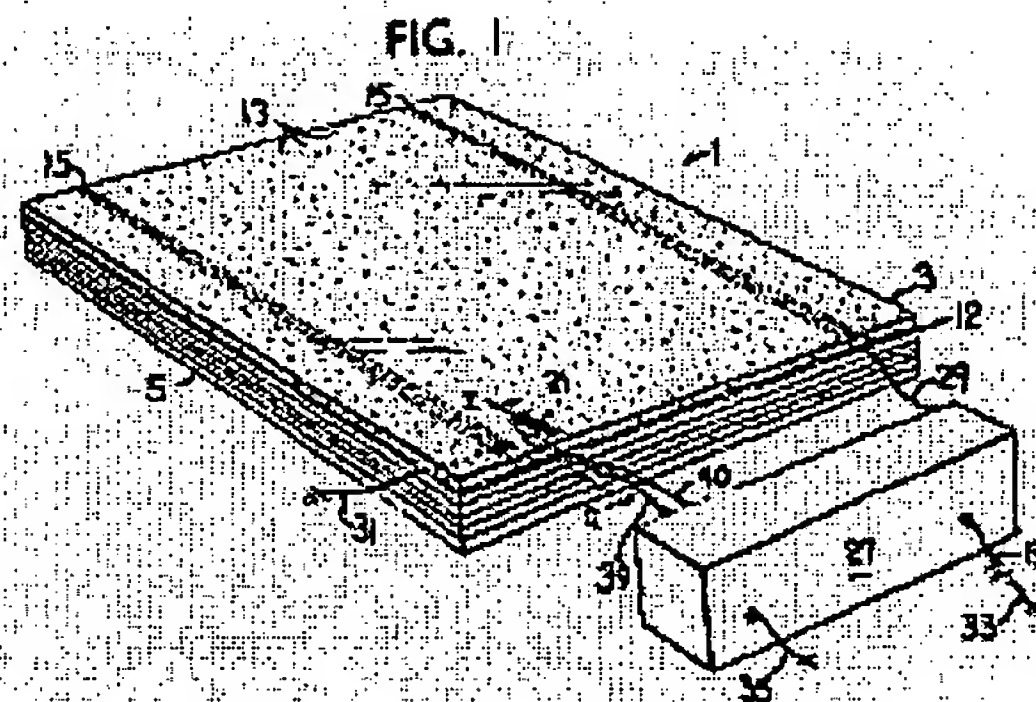
FR2160389 (A1)

DE2248094 (A1)

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Abstract of GB1401497

1401497 Measuring temperature electrically PPG INDUSTRIES Inc 16 Oct 1972 [16 Nov 1971 1 Sept 1972] 47564/72 Heading GIN [Also in Division H5] In order to prevent damage to a resistance filament temperature sensor used in a transparent window, it is encased in a transparent casing which is of higher resistance to applied heat and pressure than the transparent layer which forms or is a part of the window. The case may be a polycarbonate or acrylic polymer. The transparent layer may be polyvinyl butyral which may be plasticized with water-insolubly esters of a polybasic acid and a polyhydric alcohol. An acrylic layer may be introduced between the casing and the layer to prevent migration of the plasticizers into the case. A polyurethane adhesive layer may be used to prevent delamination between sensor case, protective layer and embedding layer. The sensor case is fused with the layer using heat and pressure. The sensor 41 (Fig. 4) comprises a resistance filament 23 e.g. tungsten, nickel, iron-nickel alloys) lead wires 39, 40 of copper and connection tabs 51 of nickel-iron mounted on polycarbonate or acrylic polymer card 43, there being provided spacers 47 of a similar material and the transparent casing comprising layers 54, 55. The connections to the tabs 51 are made by soldering or welding. Figs. 5 6 (not shown) illustrate additional protective and/ or adhesive layers. Fig. 1 shows a window incorporating the sensor 21. The window comprises transparent sheets 3, 5 e.g. glass having a film resistance heating element 13 and electrodes 15 formed on one sheet; and a transparent layer of plastic material 12 formed by laminated sheets into



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which the sensor in its protective case is embedded. A temperature control device 27 adjusts the heating current in response to resistance variations in the sensor by modifying the output voltage of the source. The heating element may be of wires &c Fig. 7 (not shown).

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IMAGE DEVICE

Publication number: JP7076131

Publication date: 1995-03-20

Inventor: MURANO SHUNJI

Applicant: KYOCERA CORP

Classification:

- international: **B41J2/44; B41J2/45; B41J2/455; H01L21/60; H01L31/02; H01L33/00; B41J2/44; B41J2/45; B41J2/455; H01L21/02; H01L31/02; H01L33/00; (IPC1-7): B41J2/44; B41J2/45; B41J2/455; H01L31/02; H01L33/00**

- european:

Application number: JP19930180613 19930625

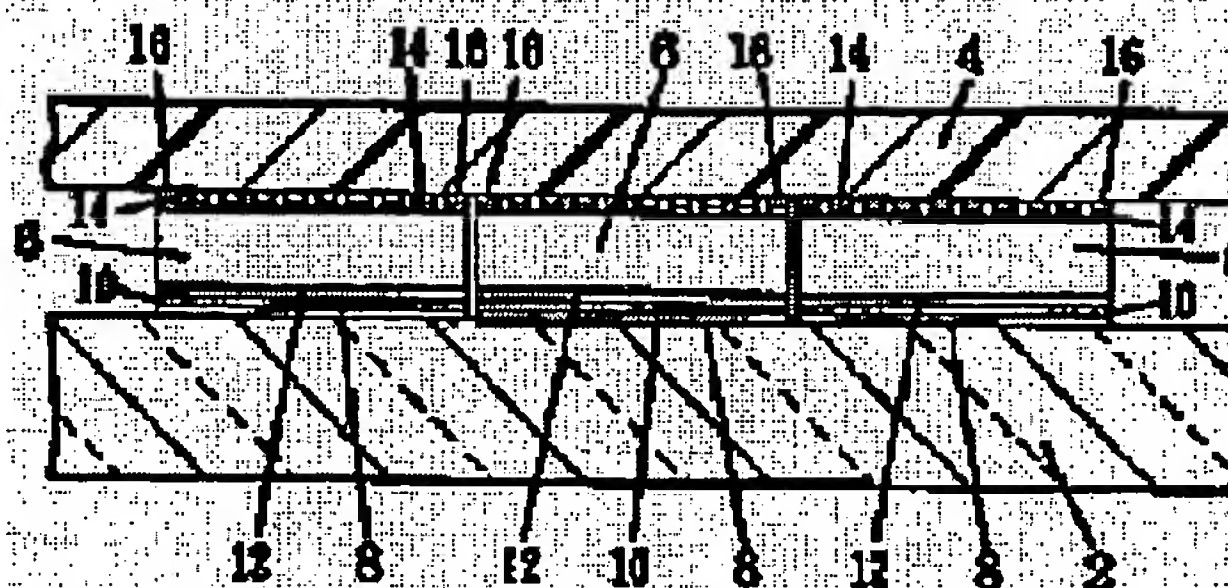
Priority number(s): JP19930180613 19930625

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Abstract of JP7076131

PURPOSE: To prevent an array from being injured by pressurizing uniformly the whole arrays in effecting flip-chip bonding by a method wherein lowering in mounting accuracy owing to deviation of an external shape of the array from its pattern is prevented by enabling the light-receiving and emitting array to be mounted on a substrate while the pattern of the array is being seen in an image device wherein the light-receiving emitting array is connected in flip-chips bonding.

CONSTITUTION: An common electrode side of an LED array 6 is connected to the first substrate 2 of high rigidity and low thermal expansion coefficient such as crystalline glass or the like. A bump 14 of the array 6 is connected to the second transparent substrate 4 in flip-chips bonding. Since when the first substrate is loaded, it can be loaded while a pattern of the array 6 is being seen, its precision in loading is raised. The array 6 is sandwiched between two substrates 2, 4, and pressurizing force is applied uniformly to the whole of the arrays.



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